

# ABSTRACT OF THE DISCLOSURE

An electron beam lithography apparatus for providing one-to-one or x-to-one projection of a pattern includes a pyroelectric emitter, which is disposed a predetermined distance apart from a substrate holder, the pyroelectric emitter including a pyroelectric plate having a dielectric plate on a surface thereof and a patterned semiconductor thin film on the dielectric plate facing the substrate holder, a heating source for heating the pyroelectric emitter, and either a pair of magnets disposed beyond the pyroelectric emitter and the substrate holder, respectively, or a deflection unit disposed between the pyroelectric emitter and the substrate holder, to control paths of electrons emitted by the pyroelectric emitter. In operation, when the pyroelectric emitter is heated in a vacuum, electrons are emitted from portions of the pyroelectric plate that are not covered by the patterned semiconductor thin film.